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1. INTRODUCTION

In the Indian context, banking is the mirror of the economic growth of the nation. Before liberalization, the structure of Indian banking was mainly controlled and the parameters like branch size and location were given paramount importance. The Indian banking industry has travelled from a drowsy institution to a dynamic entity. Now, the Indian banking industry is undergoing a period of rapid change, where global trends are impacting the banking business due to increasing competition. Liberalization has boosted customer expectations, increasing disintermediation, competitive pricing and possibilities of macro-volatility. It is a result of liberalization and economic reforms. However, these reforms have provided a base for the Indian banks to inculcate operational flexibility and functional autonomy, in their work culture thereby enhancing growth & performance, efficiency, productivity and profitability.

The banking business as a whole had given more emphasis on deposit mobilization, credit deployment and branch expansion. However now a days, it has also started giving emphasis on operational efficiency. It will not be possible to increase profit without improving efficiency and productivity. The increasing competition inspired the commercial banks to become cost effective and efficient in using the resources to perform well. A bank is considered to be cost effective, if it uses equal amount of input resources as others but also generates higher levels of output in terms of income or profit or if it spends less amount of input resources to generate same level of performance as others in banking industry. There is a need of capturing more market share and to be cost effective and competitive for survival in today‘s market scenario. That‘s why, operational efficiency of banks is critical as a basic for effective competition.

2 REVIEW OF PUBLISHED RESEARCH WORK

2.1 TABULAR PRESENTATION OF ARTICLES REVIEWED

S. NO	Title	Journal	Authors	Objectives	Sample Method (SM) Data Source (DS) Data Analysis Method (DAM)	Findings
1.	A Study of operational efficiency of commercial banks in Indian financial system: at a glance (INDIA)	Abhinav National Monthly Refereed Journal of Research in Commerce & Management	Malaya Ranjan Mohapatra1 Avizeet Lenka, Subrat Kumar Pradhan (2015)	In this present study we have analysed the operational efficiency of commercial banks in India with objectives of comparative performance different sectors of commercial banks, profitability position of different sector in relation to number of employees and challenges faced by public sector banks in Indian banking scenario	SM: Secondary Data DS: RBI, Government Reports DAM: Ratio Analysis Method	The present study has arrived at a conclusion that the overall operational efficiency of public sector banks is not satisfactory as compared to other banks

2.	The Assessment of Operational Efficiency of Commercial Banks in India Using Cost to Income Ratio Approach (INDIA)	International journal of management in business and research	S. Hussain (2014)	The current paper analyses cost to income ratio of commercial banks operating in India with the objective to explore a benchmark cost to income ratio (CIR)	SM: Secondary Data DS: Annual Report DAM: Ratio Analysis Method	The study of cost-income ratio of Indian banks from 2007 to 2011 reveals that on an average annual bank cost-income ratio has been on a declining trend until 2010 from where it shows rising tendency
3.	A comparative analysis of the operational efficiency of Indian scheduled commercial banks (INDIA)	The IUP journal of bank management	Yashpal Singh (2016)	The objective of this paper is to analyse the operational efficiency of Indian scheduled commercial banks, using the data released by the Reserve Bank of India	SS: secondary data DS: Reserve Bank of India annual reports DAM: average, standard deviation, standard error, ANNOVA test	The study reveals that the cost of fund of all scheduled commercial banks was significantly different, hence the operational efficiency showed that foreign banks were more efficient followed by private and public sector bank
4.	Operational efficiency of foreign banks operating in India: a non-parametric model (INDIA)	The IUP Journal of Bank Management	V K Shobhana, G Shanthi (2008)	This paper assesses the operational efficiency of Foreign Banks in India	SS: Secondary Data DS: annual reports DAM: ANNOVA test	This study reveals that the foreign banks are more efficient than the other commercial banks and is becoming more popular in Indian financial market.
5.	Enhanced customer relations	UNNATI – the business journal	R.C.S Rajpurohit, Swati	This paper attempts to study the customer's	SM: Primary Data	Operational efficiency and accessibility provided by the banks act as a major

	hip: by improving accessibility and operational efficiency of banks (INDIA)		Surana	perception towards accessibility and operational efficiency of public and private sector banks	DS: 400 respondents DAM: scale reliability analysis, mean scores. Independent T- test	differentiator because it reduces the cost of transactions and save the time of the customers.
6.	Assessing Bank performance with operational research and artificial intelligence techniques: a survey (UK)	University of Bath school of management, working paper series	Mereyem Duygun fethi and Fotios Pasiouras	This paper discuss numerous applications of data envelopment analysis which is the most widely applied O.R technique in the field.	SS: secondary data DS: annual reports, academic journals DAM: CAMEL test	The study reports quite satisfactory accuracies stating that maximum number of banks who purposes the O.R and A.I techniques outperform the traditional techniques
7.	Measuring the operating efficiency of domestic banks with DEA (TAIWAN)	International journal of business performance management	Kuen-Horng Long, Min-Li Yang and Feng-Kei Hsiao	This study employed the CCR model of Data Envelopment Analysis and the slack variable analysis to evaluate the operating efficiency of domestic banks of Taiwan	SS: secondary data DS: annual reports DAM: CCR model	The results revealed that the non-interest income and investments variables for most banks have more room to improve.
8.	Operational efficiency and effectiveness measure	International journal of operations and production management	Ki-Young Jeong and Dot Philips	In this paper, a new loss classification scheme for computing the overall	SS: secondary data DS: annual reports DAM: statistical	The results revealed that those industry who have adopted the technique of operational effectiveness are more profitable.

	ment (USA)			equipment effectiveness (OEE) is presented for capital-intensive industry.	tools and techniques	
9.	An empirical analysis of operational efficiency on CRM of call centres in Korea (KOREA)	International Journal of computer sciences and network security	SoonHo So	The purpose of this study was therefore to assess the operational efficiency of call centers in Korea, to indentify the current status and issues of call center operations, and to suggest ways to improve operational efficiency	SS: secondary data DS: annual reports DAM: Data Envelopment Analysis	this study carries a meaning in that it offers the groundwork for development of a realistic support program aimed at increasing the efficiency of the call center operation
10.	Impact of operational efficiency on overall profitability: a case study of GIPCL	Amrita School of business international repository	Amritpal Singh Dhillon, Hardik Vachrajani	**this study applies Karl's Pearson coefficient correlation tool to measure the impact on operational efficiency on overall profitablity**	SS: secondary data DS: websites, annual reports DAM: ratio analysis, correlation analysis and t-test	the research article reveals that the
11.	Jan Schildbach (2012)	To understand the benefits of universal banking through various point of views	GERMANY	**SM**: secondary data **DS**: websites, academic	Descriptive Research Design	The results shows thatuniversal banks alone does not guarantee financial stability, it is surely an important, helpful ingredient for a robust

				journals		banking system that can efficiently serve its clients' needs and the overall economy.
12.	L. Walter (2012)	This paper aims to find market value of equity is in fact the maximum value attainable from the perspective of the shareholder	USA	**SM**: Secondary Data **DS**: websites, periodical journals	Empirical survey method	the paper outlines some of the strategic and tactical alternatives, inside and outside the bank, that are open to management in order to achieve a hypothetical maximum value of shareholder equity. Whatever empirical evidence is available in the literature is brought to bear in the course of the discussion.
13.	Dario Focarelli, David Marques -Ibanez and Alberto Franco Pozzolo (2012)	The aim of the study is to examine if the universal bank have securities underwritten and have a significantly higher default rate than those underwritten by investment banks.	GERMANY	**SM**- secondary source of empirical method to analyse the pre-Glass Steagall era **DS**- Thomson financial database and Moody's corporate default risk source database	Empirical method, regression, Alternative econometric specifications	The results show that securities underwritten by banks have a significantly higher default rate than those underwritten by investment houses.
14.	Rajitha Nair (2012)	The research paper aims to find out the popularity and the satisfaction of a selected universal bank among the customers.	India	**SM** – Questionnaire , Personal Interview **DS** – Percentage Analysis SS - 100	Percentage Analysis	The idea of 'one stop shopping' saves a lot of transaction costs and increases the speed of economic activities. It is beneficial for the bank as well as customers
15.	Nilanjana Deb (2011)	The research would highlight the comparative position of a sample	India	**SM** – Questionnaire and comparative analysis	CAMEL model	It was found that Indian banks are not sound as far as their financial health is concerned.

		commercial bank with respect to ICICI Bank - the first Indian Universal Bank, which would help the concerned banks to know where it stands with respect to Universal Bank.		**DS** – primary data and secondary data **SS**- 270 (customers) , 100 (employees)		
16.	Gangwar Sharada (2011)	This paper attempts to find out the strength, weakness, opportunities, and threats of Indian banking system.	India	**SM**: Secondary Data **DS**: websites, journals, newspapers	Descriptive Technique	We should strive to move towards realising our vision of an efficient and sound banking system of international standards with redoubled vigour
17.	Anthony Saunders , Ingo Walter (2011)	This survey paper considers the sources of systemic gains, losses and risks associated with SIFIs in historical context, in the theoretical and empirical literature, and in public policy discussion	USA	**SM**: Secondary Data **DS**: journals, websites	Empirical Research	The study shows that the Universal Banks comes with high risk and should be avoided.
18.	Chih Pin – Lin (2009)	The research paper aims to show that universal bank in emerging economies such as Taiwan can create conflict of interest.	Taiwan	**SM** – Regression co relational **DS** – Secondary Data	Statistical frequencies analysis and Descriptive Statistics	To decrease conflicts of interest, the governments should improve market institutions that allow market investors to monitor both firms and universal banks research.
19.	Gulzar Ahmed (2009)	Finding out the steps under taken by banks to become universal banking and To come out with valuable suggestions for improvement	India	**SM** – Exploratory Research **DS**- Secondary data – articles , journals research papers, websites	Percentage Analysis	The paper shows that because of the sheer size of the universal banks it will create a monopoly power in the market which will be significance for the economic efficiency.

20.	Dharmik (2008)	The research paper aims to study the concept of universal banking with the case study	INDIA	**SM** – secondary Data **DS-** websites, journals	Case study	Universal Banking is totally a new concept in Indian Banking system and ICICI Bank is the first financial Institution to go ahead with this concept. Thus Universal banking, in fact, provides for a cafeteria approach or, if one were to vary the metaphor, it would take on the role of a one-stop financial supermarket
21.	Lili Xie (2008)	This paper studies the relationship between universal banking and firm performance	USA	**SM**: Qualitative Research **DS**: Secondary Data	Regression Analysis	The results show that universal banks should conduct security businesses in separately capitalized subsidiaries.
22.	Chaitanya, Krishna V (2008)	The present paper focuses on understanding the concept of universal banking in India and attempts to explain the regulatory role, regulatory requirements key duration and maturity distinction and lastly the optimal transition path	India	**SM**- Non Experimental and Qualitative Research **DS** – Secondary Data – Magazines , websites , books and articles	Descriptive technique	Equalize the net regulatory burden across the financial system (including banks, Financial Institutions, mutual funds, Non-Banking Finance Companies and Insurance companies).
23.	Mabid Ali Al-Jarhi (2007)	This paper aims to put forward the case of universal banking as a part of Islamic banking.	SAUDI ARABIA	**SM** – Comparative Analysis **DS** - Secondary Data	Schumpeter's View Gerschenkron's View Model	With universal banking, a bank provides equity and debt finance simultaneously, having more access to information and reducing the risk of adverse selection.

24.	Rime Bertrand, Kevin J Stiroh (2001	This paper examines the production structure of Swiss banks using a variety of output specifications, we find evidence of large relative inefficiencies across Swiss banks	SWITZERLAND	**SM**: Qualitative Research **DS**: secondary data	Empirical and Descriptive Research	This paper suggests that the creation of larger banks with broader product mixes will not necessarily lead to improved efficiency or performance.
25.	Gary Gorton, Frank A. Schmid (2000)	We empirically investigate the influence of German universal banks on the performance of German "rms.	GERMANY	**SM**- data analysis **DS**- Saling Aktienfuhrer **SS**- 243	Percentage Analysis and empirical research	Thus, an important difficulty with analyzing the effects of banks on firms in Germany is that the bank can face conflicts of interest over some ranges of bank equity holdings, proxy-voting, and other (i.e., nonbank) shareholdings, but not over other ranges.

2.2 NEED OF THE STUDY

- The evaluation of the operational efficiency of banking industry is important because it makes possible to identify those banks that performed well from those banks that could not perform well.
- This enables the bank managers to improve managerial performance by identifying ―best practice‖ and ―worst practice‖ associated with high and low efficiency respectively
- Therefore the study of operational efficiency of the private sector banks in India has lots of relevance and it is the need of the hour, as the growth in the Indian economy is directly related to it.
- The results of the study may help other developing nations initiating reform process to take appropriate strategy to improve the banking efficiency.

2.3 RESEARCH GAP

There are some research gaps observed from the reviewed articles on topic OPERATIONAL EFFICIENCY OF UNIVERSAL BANKS IN INDIA: A COMPARATIVE ANALYSIS OF SELECTED PRIVATE SECTOR BANKS

- No research has been done on the comparative analysis operational efficiency of the private sector banks in India.
- Almost no data has been collected for the comparative analysis of two different private sector banks of India on the growth performance for the year 2010-2015
- Almost research has been done for the comparative analysis of private sector banks on the productivity performance for the year 2010-2015.
- Almost no research has been done for the comparative analysis of private sector banks on the profitability performance for the year 2010-2015.
- Almost no research has been done for the comparative analysis of private sector banks on the technical efficiency for the year 2010-2015.

2.4 OBJECTIVES OF THE RESEARCH

- To review the theory and empirics on operational efficiency of banking system
- To compare the progress of private sector banks with regards to deposits, advances, investment, number of branches and employment generation
- To analyze the productivity of private sector banks on the basis of various productivity indicators
- To evaluate the profitability of private sector banks
- To explore the technical efficiency scores for the selected private sector banks operating in India
- To suggest measures for improving profitability, productivity and efficiency of private sector banks.

2.5 HYPOTHESES

H01: There is no significant difference between the growth performance of different private sector banks of India.

HA1: There is significant difference between the growth performance of private sector banks in India.

H02: There is no significant difference between the productivity of different private sector banks in India.

HA2: There is significant difference between the productivity of different private sector banks in India.

H03: There is no significant difference between the profitability of different private sector banks in India.

HA3: There is significant difference between the profitability of different private sector banks in India.

H04: there is no significant difference between the technical efficiency of different private sector banks in India.

Ha4: there is no significant difference between the technical efficiency of different private sector banks in India.

2.6 SCOPE OF THE STUDY

- This research highlights the comparative position of two different types of private sector banks in India – ICICI and HDFC.
- This research would bring light into the various variables of operational efficiency of a bank – productivity, profitability, customer preferences, and technical efficiency.
- The study of profitability and productivity would be done by annual reports and financial statements of various banks through secondary data.
- The study would cover a period of last five years i.e., 2010-2015.
- The study would depend on the secondary data method, where the data would be collected through various annual reports by RBI (Reserve Bank of India) and IBA (Indian Bankers Association).

3 PLAN OF WORK AND METHODOLOGY OF THE STUDY

3.1 RESEARCH DESIGN

Research Design is the technique for conducting a research project. The design of the study is exploratory and descriptive research approaches. Explanatory study approach will be employed to establish how variables such as education qualification, gender, and occupation of the customers impact on the awareness and preferences of using products and services from different universal bank or financial institutions.

In this research the main technique used is secondary data to analyse the profitability, growth performance, technical efficiency and productivity of the selected private sector banks in India.

3.2 DATA COLLECTION METHOD

The research would mainly be based on secondary data.

Secondary Data- it would include various annual reports and financial statements through RBI AND IBA for the last five years to analyse the operational efficiency of the selected private sector banks in India.

3.3 DATA ANALYSIS PLAN

The Study attempts to accomplish its objectives by dividing the analysis of data into four parts. In the first part of the study, the determinants of efficiency of public sector banks have been analyzed in terms of deposits mobilization, credit deployment, investments, branches expansion and employment generation. The second part of analysis deals with productivity of banks on the basis of 12 indicators.

The first set of indicators measure output in terms of input of number of employees, that is employee productivity. The second set of indicators measure output in terms of input of number of branches, that is branch productivity. The last set of indicators depicts productivity on the basis of certain financial ratios, that is, financial productivity. In third part emerging trends in the profits of the banks have been studied while analyzing data of selected banks regarding spread ratio and burden ratio. The fourth part of analysis covers technical efficiency of the public sector banks by using CCR and BCC models.

The set of indicators of productivity are as follows:

- Per Employee Indicators (Labour Productivity)

a) Deposits per Employee
b) Credit per Employee
c) Business per Employee
d) Total Expenditure per Employee
e) Establishment Expenses per Employee

- Per Branch Indicators (Branch Productivity)

a) Deposits per Branch
b) Credit per Branch
c) Business per Branch
d) Total Expenses per Branch
e) Establishment Expenses per Branch Financial Ratios Measuring

- Productivity (Financial Productivity)

a) Establishment Expenses as Percentage to Total Expenditure
b) Total Earning as Percentage to Total Credit

3.4 STATISTICAL TOOLS & TECHNIQUES

The following statistical tools have been used for analyzing data. The analysis of data collected has been carried out by using average, simple growth rates, exponential growth rates, coefficient of variation and ratio analysis, average mean, standard deviation, DEA (Data Envelopment Approach)

4. TENTATIVE CHAPTERISATION

- **CHAPTER 1 Introduction**
- Introduction to Indian banking industry
- History of Indian banking industry
- Phases of Indian banking industry
- Present scenario of Indian banking industry
- **Chapter 2**
- Review of literature
- Need of the study
- Research gap
- Objectives of the study
- Hypothesis
- Scope of the study
- **CHAPTER 3**
- ICICI Bank – history
- HDFC – history
- **CHAPTER 4**
- Operational efficiency – Meaning
- Operational efficiency in Banking Industry
- **CHAPTER 5**
- **PLAN OF THE WORK AND METHODOLOGY OF THE STUDY**
- Research design
- Data collection method
- Data analysis plan
- Statistical tools and technique
- **CHAPTER 6**
- **MEASURING OF OPERATIONAL EFFICIENCY: AN ANALYSIS OF SELECTED PRIVATE BANKS**
- Growth and Performance of selected Private sector banks
- Productivity measurement of selected Private sector banks
- Profitiability measurement of selected Private sector banks

- Technical efficiency of selected Private sector banks
- **CHAPTER 7**
- Conclusion
- Recommendations

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